

REMARKS

Applicant thanks the Examiner for withdrawing the previous rejections of claims 1-10 under 35 U.S.C. § 112, second paragraph.

In the Final Office Action, claim 11 was rejected under 35 U.S.C. § 102(b) as allegedly anticipated by United States Pat. No. 6,161,357 to Altemus (hereinafter "Altemus"), and further rejected under this same section as allegedly anticipated by United States Pat. No. 2,201,110 to Makram (hereinafter "Makram").

Further, claims 1, 2, 6-10 and 12-13 were rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by Altemus in view of United States Pat. No. 4,341,489 to Karnas (hereinafter "Karnas ") or United States Pat. No. 4,508,057 to Suzuki (hereinafter "Suzuki "); claims 1, 3, 4, 5, 7, 9, 10 and 12 were rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by Makram in view of Karnas or Suzuki. Applicant respectfully traverses the rejections of record.

Claims 1, 11, 12 and 13 have been amended to correct informalities. Each of these amendments is supported by the specification. *E.g.*, Specification, ¶ 9.

Claim Rejections Under 35 U.S.C. § 102(b)

Claim 11 as amended was rejected under 35 U.S.C. 102(b) as allegedly anticipated by Altemus, and further rejected under this same section as allegedly anticipated by Makram. Applicant respectfully traverses these rejections.

Claim 11 as twice amended is directed to a module for use in assembling an artificial reef comprising a concrete block having top and bottom surfaces and side surfaces, at least one through hole extending through the module from the top surface to the bottom surface which is at least partially filled with concrete that is bonded to the interior walls of the through hole, which concrete columns are comprised of a mixture which is specifically formulated for underwater placement, at least one projection extending away from one of the top and bottom surfaces at a location defined with respect to the location of the through hole, and at least one recess extending into the other of the top and bottom surfaces at a location corresponding to that of the projection

No such artificial reef module is described in or suggested by Altemus or Makram. Instead, Altemus discloses an interlocking brick wall system, with intersecting vertical and horizontal hollow passageways which may be used for either additional support, or for the installation of plumbing or electrical supply lines. *See Altemus*, col. 2, lines 10-37. Makram discloses a brick or block "for use in general building and wall construction, as well as in the production of refractory or fire bricks adapted for the building of furnaces and for furnace linings." *See Makram*, col. 1, lines 1-5.

Anticipation under 35 U.S.C. §102 requires the disclosure in a single piece of prior art of each and every limitation of a claimed invention. *See, e.g., Apple Computer, Inc. v. Articulate Systems, Inc.*, 57 U.S.P.Q.2d 1057, 234 F.3d 14 (Fed. Cir. 2000).

Makram and Altemus are directed to brick/block systems for walls and furnaces, and neither of these references discloses a module for use in assembling an *artificial reef*, as that limitation is recited in claim 11. Furthermore, neither of these references disclose the use of concrete comprising a mixture that is specifically formulated for underwater placement. Accordingly, because Altemus and Makram each fail to disclose or suggest at least several limitations of claim 11, Applicant respectfully asserts that claim 11 as amended is not properly anticipated by those references..

Claim Rejections Under 35 U.S.C. § 103(a)

Claims 1, 2, 6-10 and 12-13 were rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by Altemus in view of Karnas or Suzuki. Claims 1, 3, 4, 5, 7, 9, 10 and 12 were further rejected under 35 U.S.C. § 103(a) as allegedly rendered obvious by Makram in view of Karnas or Suzuki. Applicant respectfully traverses these rejections.

The combinations of Altemus with Karnas or Suzuki and Makram with Karnas or Suzuki are not properly made. Altemus describes an interlocking brick system for use in the construction of walls. *See Altemus*, Abstract. Makram describes a brick or block system for use in the construction of walls and furnaces or furnace linings. *See Makram*, col. 1, lines 1-5. The Examiner attempts to combine these references with Karnas and Suzuki, which both pertain to artificial offshore reef assemblies that do not describe or

suggest the features recited in the claims of the present invention. As the Court of Appeals for the Federal Circuit has held:

"It has not been shown that a person of ordinary skill, seeking to solve a problem of fastening a hose clamp, would reasonably be expected or motivated to look to fasteners for garments. The combination of elements from non-analogous sources, in a manner that reconstructs the applicant's invention only with the benefit of hindsight, is insufficient to present a *prima facie* case of obviousness. There must be some reason, suggestion, or motivation found in the prior art whereby a person of ordinary skill in the field of the invention would make the combination. That knowledge can not come from the applicant's invention itself."

In re Oetiker, 24, U.S.P.Q.2d 1443, 1447, 977 F.2d 1443, 1447 (Fed. Cir. 1992).

As Applicant asserted in response to the previous Office Action, there is no "reason, suggestion, or motivation" in the prior art such that one of ordinary skill in the art would make the combinations which form the basis of the rejections under 35 U.S.C. § 103(a) in the Office Action. This combination of elements between non-analogous sources, i.e., artificial reefs and wall/furnace construction, is apparently improperly made only with the benefit of hindsight in view of the present application. In much the same way that one seeking to solve a problem of "fastening a hose clamp" would not "reasonably be expected or motivated to look to fasteners for garments" for a solution, it is equally unlikely that one seeking to solve a problem in artificial reef design would reasonably look to wall and furnace construction. *See id.*

In response to Applicant's assertions, the Examiner asserts that one skilled in the art of artificial reef design would look to the brick/block art for forming an artificial reef where that reef is composed of bricks or blocks. Applicant respectfully disagrees. It cannot fairly be stated that one skilled in the art of artificial reef design would innately look to the art of basement walls, soil retaining walls, furnaces, or fences, without the benefit of hindsight. These arts cannot possibly be considered analogous to the art of artificial reef design, regardless of the structure of the artificial reef.

As a practical matter, artificial reef design requires considerations of numerous factors which are wholly irrelevant to the non-marine structural brick/block arts described above. As discussed in the Background of the Invention of the present application,

artificial reefs must be designed to withstand the adverse effects of tidal, current and wave energy. *See, e.g., Specification, ¶¶ 2-3.* This includes the analysis of forces caused by storm surge waves. Furthermore, artificial reef design is heavily dependent on the additional factors related to possible deterioration of the reef as a result of the harsh marine environment. *Specification, ¶ 16.* The field of artificial reef design cannot possibly be considered as analogous art to brick or block designs for use in entirely distinct applications such as basement walls, soil retaining walls, furnaces, or fences.

Accordingly, because there is no teaching or suggestion towards the cited combination in the prior art, in conformity with the law as recited by the Federal Circuit, these references are not properly combined. Applicant therefore respectfully requests that the rejections of claims 1-10, 12 and 13 under 35 U.S.C. § 103(a) be withdrawn, and further submits that these claims are in condition for allowance.

Moreover, even assuming *arguendo* that such a combination can be properly made, the cited art does not render claims 1-10 and 12-13 obvious. Amended claims 1, 11 and 13 are directed to concrete modules for constructing an artificial reef, which when assembled, provide through-holes which may be filled with concrete that bonds to the inner surface of the through-holes. This provides a stronger and more rigid structure which can better withstand the storm surges and wave forces that could not be resisted by artificial reef constructs of the prior art. *See Specification, ¶¶ 2-3.*

No such module is disclosed in or suggested by Altemus and/or Makram viewed in combination with Karnas or Suzuki. As noted above, neither Altemus nor Makram disclose or suggest at least a concrete module for use in constructing an artificial reef wherein through-holes in the structure are filled with *concrete columns which bond to the inner surfaces of the through-holes*. Nothing in Karnas or Suzuki makes up for this deficiency.

Furthermore, independent claims 1, 11 and 12 have been amended to include the additional limitation that the concrete columns comprise a mixture which is specifically formulated for underwater placement. This limitation is not disclosed or suggested by the cited portions of the prior art of record. Accordingly, Applicant respectfully submits that

independent claims 1 and 12 are in condition for allowance. Additionally, because dependent claims contain of the limitations recited in the claims from which they depend, Applicant respectfully submits that claims 2-10 and 13 are also in condition for allowance.

Regarding the rejection of claim 7, as stated by the Examiner, the cited references also fail to disclose or suggest the use of reinforcing rods which are composed of fiberglass. *See* Final Office Action, p. 3. However, the Examiner asserts that "reinforcing rods being made out of fiberglass are well known and old in the art." *Id.* However, the Examiner provides no support for this proposition, and no such support is provided within the cited portions of the references discussed herein. Accordingly, for at least this additional reason, Applicant submits that claim 7 is allowable over the cited prior art.

CONCLUSION

In view of the foregoing amendments and remarks, favorable consideration and allowance of claims 1-13 are respectfully solicited. In the event that the application is not deemed in condition for allowance, the examiner is invited to contact the undersigned in an effort to advance the prosecution of this application.

Respectfully submitted,



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